



ROITHNER LASERTECHNIK GmbH

WIEDNER HAUPTSTRASSE 76
TEL. +43 1 586 52 43 -0, FAX. -44, OFFICE@ROITHNER-LASER.COM

1040 VIENNA

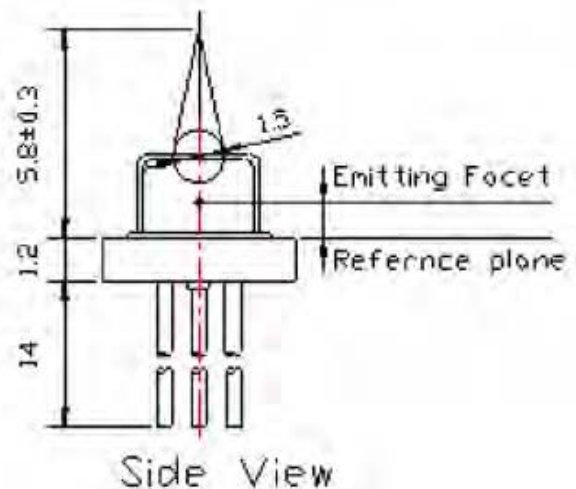
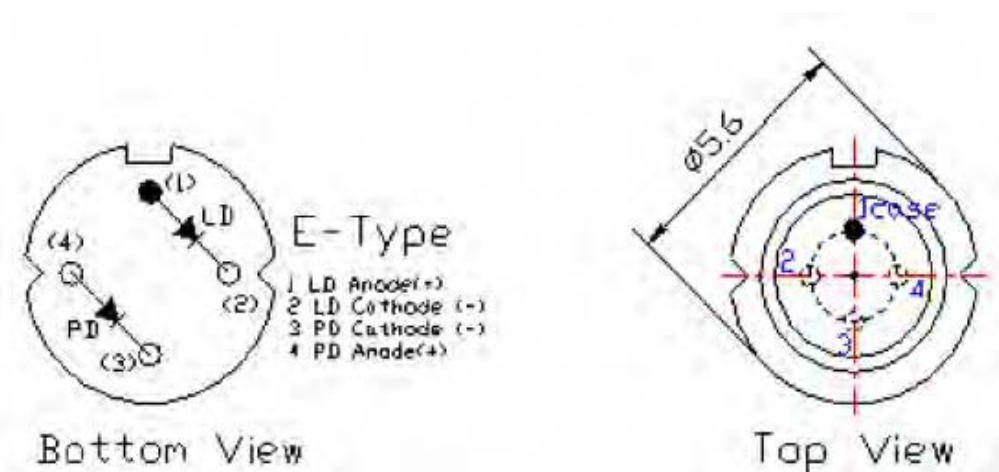
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S1300-5MG-BL/FW

- **Features**
 - Un-cooled Laser diode with MQW structure
 - Wide operation temperature range
 - Dew point below -40°C
 - Both ball lens and flat window cap available

- **External dimensions (Unit : mm)**





■ Absolute Maximum Ratings($T_c=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Optical Output Power	P_o	7	mW
LD Reverse Voltage	V_r (LD)	2	V
PD Reverse Voltage	V_r (PD)	10	V
Operation Case Temperature	T_{op}	$-40 \sim +85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +125$	$^\circ\text{C}$

■ Electrical and Optical Characteristics($T_c=25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Threshold Current	I_{th}	$T_c = 25^\circ\text{C}$	-	10	15	mA
Threshold Current	I_{th}	$T_c = -40 \sim +85^\circ\text{C}$	-	-	45	mA
Operation Voltage	V_{op}	$P_o = 5\text{mW}$	-	1.2	1.5	V
Slope Efficiency	SE	$P_o = 1 \text{ to } 4\text{mW}$	0.25	0.28	-	mW/mA
Monitor Current (PD)	I_m	$P_o = 5\text{mW}$, $V_{RPD}=2\text{V}$	0.1	-	-	mA
Dark Current (PD)	I_d	$V_{RPD}=10\text{V}$	-	-	0.1	μA
Capacitance (PD)	C_t	$V_{RPD}=10\text{V}$, $f=1\text{MHz}$	-	10	20	pF
Lasing Wavelength	λ	$P_o = 5\text{mW}$	1290	1310	1330	nm
Spectral Width	$\Delta\lambda$	$P_o = 5\text{mW}$	-	3	5	nm
Optical Output Power	P_o	CW, Kink free	5	-	-	nm
P-I Kink	K_i	$P_o < 5\text{mW}$	-	-	20	%
Rise and fall time	t_r, t_f	$P_o = 5\text{mW}$, 10%~90%	-	-	0.7	ns
Tracking Error	TE	$P_o = 5\text{mW}$, $V_{RPD}=1\text{V}$	-0.7	-	0.7	dB
Beam Divergence (FWHM)	Parallel	$\theta //$	$P_o = 5\text{mW}$	-	8	deg.
	Perpendicular	$\theta \perp$	$P_o = 5\text{mW}$	-	10	deg.

© $\theta //$ and $\theta \perp$ are defined as the angle within which the intensity is 50% of the peak value.



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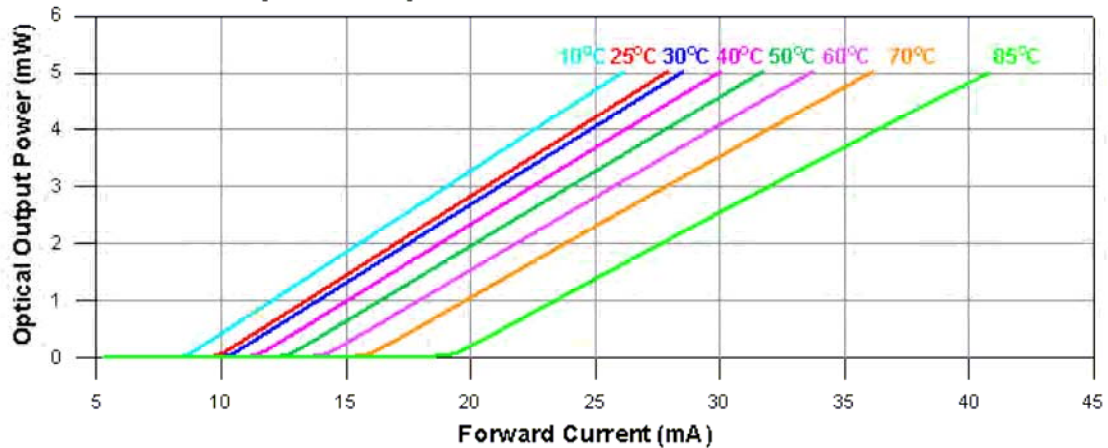
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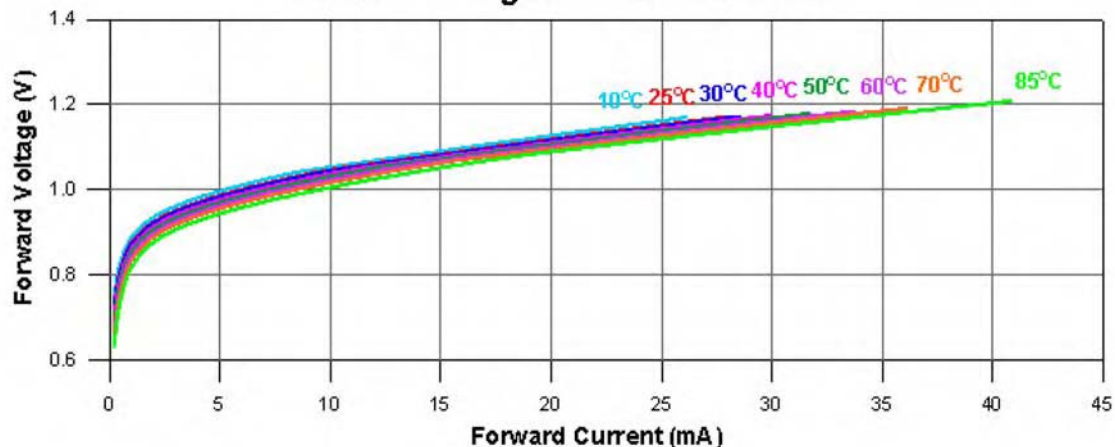


■ Typical characteristic curves

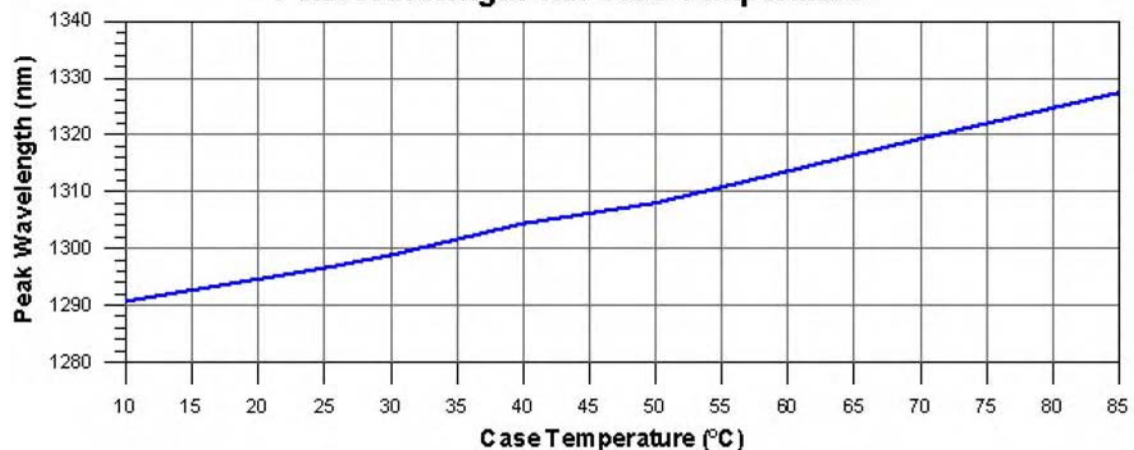
Optical Output Power v.s. Forward Current



Forward Voltage v.s. Forward Current



Peak Wavelength v.s. Case Temperature





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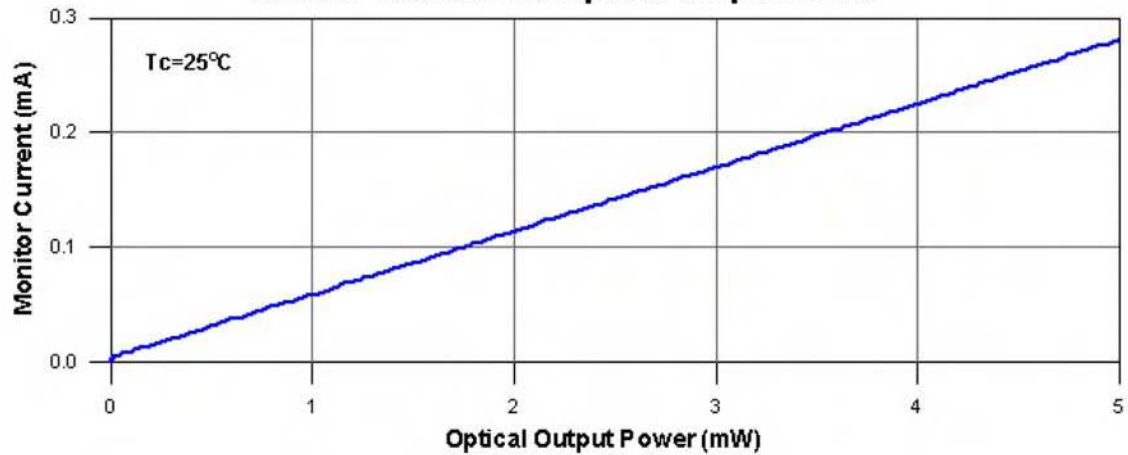
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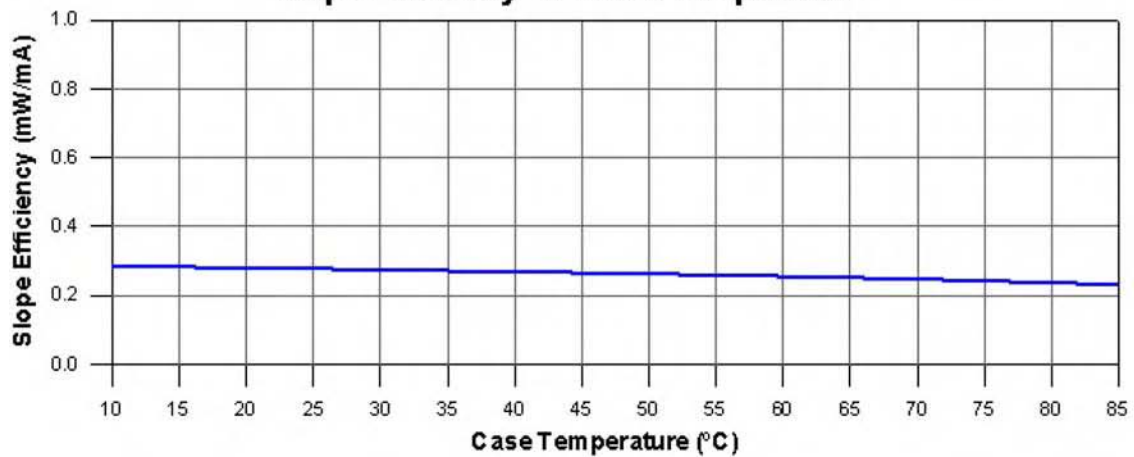
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Monitor Current v.s. Optical Output Power



Slope Efficiency v.s. Case Temperature



Threshold Current v.s. Case Temperature

